

8200178

THE UNIVERD SHAVES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

Lofts Seed Inc.

Talkereas, there has been presented to the

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE STITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE IN THE APPLICANT IS, INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUB EXAMINATION MADE, THE SAID APPLICANT (S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF CIGATERN YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITOR ASPROVIDED BY LAW, THE RIGHT TO EXPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT TY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT 1542, AS AMENDED, 7 U.S.C. 2321 ETTSEQ.)

PERENNIAL RYEGRASS

'Palmer'

In Lestimonn Whereot, I have hereunto set my hand and caused the seal of the Plant Bariety Protection Office to be affixed at the City of Washington this 31st day of May in the year of our Lord one thousand nine hundred and eighty-four.

The R Block

Start

Levreth H,

Plant Variety Protection Office Livestock, Meat, Grain & Seed Agricultural Marketing Service

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE LIVESTOCK, MEAT, GRAIN & SEED DIVISIO APPLICATION FOR PLANT VARIETY PROTECTION (Instructions on reverse)		VICE	FOF	RM APPROVED: OMB NO.0581-005
			No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S. (553).	
1. NAME OF APPLICANT(S)		2. TEMPORARY DESIGNATION		ARIETY NAME
Lofts Seed Inc.		(GT-1) Greektown	Pa	almer
4. ADDRESS (Street and No. or R.F.D. No., City, Sta Chimney Rock Road, P.O. Bo	nte, and Zip Code,	5. PHONE (Include area code)	27/2	FOR OFFICIAL USE ONLY
Bound Brook, NJ 08805		201-560-1590	PVP	8200178
6. GENUS AND SPECIES NAME	7. FAMILY NA	MME (Botanical)	NG NG	9/8/82
Lolium perenne L.	Gramineae		FILING	2:30 A.M. X P.M.
8. KIND NAME	ME 9. DATE OF DETERMINATION			AMOUNT FOR FILING \$ 500.00
Perennial Ryegrass 1980		1980	RECEIVED	DATE 9/8/82
10. IF THE APPLICANT NAMED IS NOT A "PERSO partnership, association, etc.)	N," GIVE FORM	OF ORGANIZATION (Corporation	FEES RE	amount for certificate \$ 250.00
Corporation	·		-	5/9/84
11. IF INCORPORATED, GIVE STATE OF INCORPORATION New Jersey			12. [DATE OF INCORPORATION 11/10/48
13. NAME AND ADDRESS OF APPLICANT REPRE	SENATIVE(S), IF	ANY, TO SERVE IN THIS APPLIC	ATION	AND RECEIVE ALL PAPERS
Mr. Richard H. Lofts Seed Inc. P.O.Box 146, Bo	. -	k, NJ 08805		n and the season of the seas
414. CHECK APPROPRIATE BOX FOR EACH ATTAG	CHMENT SUBMI	TTED.		
a. Exhibit A, Origin and Breeding History of the Section 52 of the Plant Variety Protection A	e Variety (See ct.)	c. Exhibit C, Objective I from Plant Variety Pr	Descript otection	ion of the Variety (Request form 1 Office.)
b. 🔀 Exhibit B, Novelty Statement		d, 🗵 Exhibit D, Additional	Descri	otion of the Variety
15. DOES THE APPLICANT(S) SPECIFY THAT SEE SEED? (See Section 83(a) of the Plant Variety Pro	D OF THIS VAR otection Act.)	IETY BE SOLD BY VARIETY NAM Yes (If "Yes," answer		
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?		17. IF "YES" TO ITEM 16,1 BEYOND BREEDER SE	WHICH ED?	CLASSES OF PRODUCTION
X Yes No	· · · · · · · · · · · · · · · · · · ·	X Foundation		egistered X Certified
18. DID THE APPLICANT(S) FILE FOR PROTECTION	ON OF THE VAR	HETY IN THE U.S; OR OTHER COU	JNTRIE	Ser Yes (If "Yes," give name of countries and dates)
				X No
19. HAVE RIGHTS BEEN GRANTED IN THE U.S. O	R OTHER COUN	TRIES?		Yes (If "Yes," give name of countries and dates)
		•		X No
20. The applicant(s) declare(s) that a viable samp plenished upon request in accordance with su	le of basic seed ch regulations	s of this variety will be furnished as may be applicable.	l with	the application and will be re-
The undersigned applicant(s) is (are) the own distinct, uniform, and stable as required in Se Variety Protection Act.	er(s) of this sex	sually reproduced novel plant va	riety, a e provi	nd believe(s) that the variety is sions of Section 42 of the Plant
Applicant(s) is (are) informed that false repre	sentation herei	n can jeopardize protection and	result i	n penalties.
SIGNATURE OF APPLICANT			D	ATE S/1/82
SIGNATURE OF APPLICANT			D/	1// 0 <i>0</i>
2		•		1

FORM LMGS-470 (9-81) (Edition of 1-78 is obsolete)

INSTRUCTIONS

General: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Department of Agriculture, Agricultural Marketing Service, Livestock, Meat, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

Item

- 9 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- If "Yes" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice, (See section 180.16 of the Regulations and Rules of Practice.)
 - See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

GPO 890-69



EXHIBIT A

Origin and Breeding History of Palmer Perennial Ryegrass

Palmer perennial ryegrass (Lolium perenne L.) is an advanced generation synthetic cultivar selected from the progenies of 36 clones.

A breeding program was initiated in 1968 to improve crown rust resistance in perennial ryegrass varieties being developed for turf use. Improvements were also sought in:

- 1. Resistance to Rhizoctonia brown patch, red thread, winter brown blight and dollarspot.
 - 2. Improved heat tolerance with better summer performance.
 - 3. Increased winter hardiness.
 - 4. Better mowing qualities.
 - 5. A lower growth profile.
- 6. An attractive appearance including a finer texture and a dark green color.
 - 7. More economical seed production.
 - 8. Improved performance at close-cut.
 - 9. Improved performance under low maintenance.
 - 10. A finer texture.

Thousands of seedlings of named cultivars, experimental selections, collections from old turf, and Plant Introduction Accessions were assembled and screened for stress tolerance, turf performance characteristics and as sources of disease resistance. Much of the disease screening was done in cooperation with the Plant Pathology Department of the New Jersey Agricultural Experiment Station. A number of breeding composites were developed from the most promising germplasm sources.

Four of these breeding composites, designated GD-1, H-969, M-31 and CJ-2, were used as the source of the 36 parental clones of Palmer perennial ryegrass.

GD-1

Breeding composite GD-1 was developed using a modified backcrossing program to incorporate additional sources of crown rust resistance into some of our most promising turf-type ryegrass germplasm. A crown rust resistant seedling, designated Han 9, was selected from PI 231, 597, an introduction from Greece. The initial crosses and the first backcrosses were made using parental clones of NJE K-79 and Manhattan, respectively. The recurrent parents for the second, third and fourth backcrosses consisted of large numbers of unrelated, earlier maturing, turf-type ryegrasses that had been developed using one or two cycles of phenotypic recurrent selection for crown rust resistance and improved turf characteristics. Nineteen of the parental clones of Greektown were selected from a spaced-plant nursery of GD-1 on the basis of attractive appearance, medium early maturity and freedom from disease. Polycross progenies were subsequently evaluated in turf trials subject to frequent close mowing.

M-31

Breeding composite M-31 originated by crossing a crown rust resistant plant selected from Pennfine with one of the parental clones of Manhattan. Seed from this cross was used to establish a turf plot where the seedlings were exposed to eight months of interplant competition under close mowing. Tillers selected from this plot were subsequently established in a nursery containing a total of over 16,000 spaced-plants. After exposure to severe natural crown rust and normal summer stress, 205 plants from the above Pennfine x Manhattan cross and 445 unrelated plants were selected and transferred to an isolated randomized crossing block. After rouging for winter damage and spring diseases, plants were allowed

to interpollinate. Seed harvested from each plant was subsequently planted in individual turf plots subjected to disease stress and close mowing. After 11 months of interplant competition, tillers were selected from the best performing plots and established in an isolated spaced-plant nursery. Three of the parental clones of Greektown were selected from this nursery on the basis of attractive appearance, medium early maturity and freedom from disease. Polycross progenies were subsequently evaluated in turf trials subjected to close mowing and disease stress.

H-969

Large numbers of turf-type ryegrasses were subjected to selection for crown rust resistance using greenhouse seedling screening followed by exposure to natural field infections. An isolated spaced-plant nursery of 2,470 crown rust resistant seedlings was established in the fall of 1974. Less promising plants were removed from this nursery prior to anthesis. The remaining 900 plants were allowed to interpollinate and harvested in late June of 1975. Individual turf plots seeded from the progenies of each plant were evaluated for turf performance. After two years of interplant competition, tillers were selected from the best turf plot and transferred to a spaced-plant nursery. Six of the parental clones of Greektown were selected from this nursery. Polycross progenies were subsequently evaluated in turf trials subjected to frequent, close mowing.

CJ-2

Breeding composite CJ-2 originated from a broad based germplasm pool containing selections from Manhattan, Pennfine, Citation, Yorktown II, H-3 (a germplasm source containing genes for crown rust resistance derived from PI 197, 270, an introduction from Finland), and Birdie. Sixteen thousand plants exhibiting

seedling resistance to crown rust were established in a spaced-plant nursery at Adelphia, New Jersey.

Over 600 plants were subsequently selected from this nursery and transferred to an isolated crossing block. Progenies of the most promising plants were seeded in turf evaluation plots subjected to close mowing and disease stress. After 11 months of interplant competition, tillers were selected from the best performing plots and established in an isolated spaced-plant nursery. Eight of the parental clones of Greektown were selected from this nursery. Polycross progenies were subsequently evaluated in turf trials subjected to frequent, close mowing and disease stress.

Progenies of the 36 parental clones of Palmer were subsequently established in an isolated spaced-plant nursery for production of Syn 2 breeder seed. This nursery was rouged of unattractive plants and for uniformity of maturity prior to anthesis.

This breeder seed was used to establish turf trials and to plant a 15 acre foundation seed increase field in Western Oregon. First crop certified seed was produced in Western Oregon in 1982. Seed propagation of Palmer is limited to two generations of increase from breeder seed, one each of foundation seed and certified seed.

No off-type plants or variants have been observed in the reproduction and multiplication of this variety. Palmer is a stable and uniform variety. Breeder seed and foundation seed have produced turf and seed fields of equal quality and acceptable uniformity.

STATEMENT OF NOVELTY OF PALMER PERENNIAL RYEGRASS

'Palmer' can be distinguished from all other cultivars by the combination of spaced-plant and turf characteristics in Tables 1-12.

Palmer most closely resembles Yorktown II. They can be distinguished by the following characteristics:

- 1. Palmer is significantly less susceptible to crown rust than Yorktown II (Table 1).
- 2. Palmer reaches anthesis 2 to 3 days earlier than Yorktown II, Hubbard, Oregon (Table 2).

Table 1. Response of perennial ryegrass cultivars to crown rust incited by <u>Puccinia coronata</u> in replicated greenhouse studies, New Brunswick, New Jersey, 1979-1981.

CULTIVAR	RUST RATING
	9=most disease
Palmer	2.1 a ²
Yorktown II	4.5 b

¹ Average of 3 separate tests conducted over a 2 year period.

 $^{^2\}text{Means}$ followed by same letter are not significantly different (Duncan's multiple range test, p=0.05).

Table 2. Heading date of perennial ryegrass cultivars, Hubbard, Oregon.

	DATE OF A	ANTHESIS
CULTIVAR	1980 ¹	19822
Pennfine	6/2	5/22
Palmer	6/16	5/29
Yorktown II	6/18	6/1
Manhattan	6/21	6/9

 $^{^{1}\}mathtt{Date}$ on which 10% of the panicles for each cultivar flowered.

 $^{^{2}\}mathrm{Date}$ on which 50% of the panicles for each cultivar flowered.

Table 3. PLANT HEIGHT OF PERENNIAL RYEGRASS CULTIVARS, YIELD TRIALS, HUBBARD, OREGON, JUNE 1982.

CULTIVAR	HEIGHT	STANDARD ERROR
	cm	•
Prelude	80.1	.48
Pennfine	79.7	.47
Premier	76.2	.49
Palmer	75.8	.40
Manhattan	70.9	.49
Yorktown II	69.4	.36

¹ Average of 2 reps.

Table 7. SPIKE LENGTH OF PERENNIAL RYEGRASS CULTIVARS, YIELD TRIALS, HUBBARD, OREGON, JUNE 1982.

CULTIVAR	SPIKE LENGTH ¹	STANDARD ERROR
	cm	
Manhattan	24.5	.50
Pennfine	21.0	.29
Yorktown II	20.8	.36
Premier	20.8	.30
Prelude	20.6	.30
Palmer	18.2	.36
Palmer	18.2	.36

¹ Average of 2 reps, 42 spikes per rep.

Sod WERWORM 9/21/82 (CRAMAUS spp.)

Billbug damage to perennial ryegrass cultivars, Adelphia, New Jersey, August 1980. Table 11.

CULTIVAR	SOD WEBWORM (CRAME BILLBUG DAMAGE	SPR)
	%	9/28/82
Prelude	17.5	
Palmer	30.0	
Pennfine	53.7	
Yorktown II	61.2	
Citation	62.5	
Manhattan	80.0	
LSD .05	18.1	

FORM GR-470-36 (9-76)

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE GRAIN DIVISION

444 (444) 144 (444) 144 (444) 144 (444)	GRAIN	MARKETING SERVIC DIVISION MARYLAND 20782	
OBJ	ECTIVE DESCRI Rye	PTION OF CULTIVERS SPENDS	
NAME OF APPLICANT(S)			VARIETY NAME OR TEMPORARY DESIGNATION
Lofts Seed Inc.		g of the first of the state of the	Palmer Perennial Ryegrass
ADDRESS (Street and No., or R.F.D. No., City, Sta Chimney Rock Rd.	te, and ZIP Code)		FOR OFFICIAL USE ONLY
P.O.Box 146, Bound Brook, N	ew Jersev	08805	PVPO NUMBER 8200178
Place the appropriate number that describes the varietal c number if either 99 or less or 9 or less. Descriptions of ch data should be for SPACED PLANTS. Give additional de petrinent comparative trial and evaluation data.	iaracters should rent	esent those that are tur	yical for the variety Ranges may be given also Measure
1. SPECIES: 2 1 = L. MULTIFLORUM (annual or Italian: inc. 4 = HYBRID (of species)	ludes Westerwoldicu		
2. PLOIDY:		5 = OTHER (Spec	113)
1 = DIPLOID) } }	3 ₹ OTHER (Spec	#PP CONTROL OF THE TRANSPORT OF THE CONTROL OF T
3. DURATION: 3 1 = ANNUAL OR BIENNIAL 2 = SHORT	LIVED PERENNI	AL (3-4 years)	3 = PERENNIAL (more than 4 years)
1 = GULF 2 = WIMMERA 62 5 = NORLEA 6 = ABERYSTWY	2 TH S-23	7 = MANHATTAI	
4. MATURITY (50% X MADEN) Use standards from	n above for compar	ison: (Table 2	
4 1 = VERY EARLY 3 = EARLY 5 = MEDIUM 7 = LATE	0 5 DAYS	EARLIER THAN	STANDARD CULTIVAR
9 = VERY LATE	1 4 DAYS	LATER THAN	8 STANDARD CULTIVAR
5. MATURE PLANT HEIGHT (Use standard cultivars	from above): (T	able 3)	a aratisa
0 7 6 cm High	0 0 4 cm	A. SHORTER THAN	
0 0 5 CM. TALLER THAN	7 STANDARD	CULTIVAR	· ·
6. PERCENT WINTER DAMAGE (estimated as percent	nt of the area appea	ring dead). Use sta	ndard cultivars from above for comparison:
PERCENT DAMAGE OF APPLICATE		The same carry	asaeo dalataras prom asovs
PERCENT DAMAGE OF	STANDARD	CULTIVAR	
7. TURF DENSITY Use standard cultivars from abo	ove: (Table	Δ·1	
4 5 7 TILLERS PER 100 SQ. CM.	:		- Pati tari Lawayê netî ji wên ke .
LESS TILLERS PER 100 SQ. CM. TH	AAN S	TANDARD CULTIVA	R
1 5 5 MORE TILLERS PER 100 SQ. CM. T		AC TANDARD CULTIVA	R
8. FLAG LEAF (at full growth). Use standard cultival (Table 5.)	ars from above:	(Tabl	(at widest point)
0 0 5 CM. SHORTER THAN	8 s	-LI	1 = DEFLEXED FLAG LEAF AT 3 = RECURVED BOOT STAGE: 5 = HORIZONTAL
CM. LONGER THAN	s	FANDARD CULTIVA	
0 0 2 MM, NARROWER THAN	8 s	TANDARD CULTIVAI	CARREST SE
MM, WIDER THAN	King and the second of the second of the second	TANDARD CULTIVAL	* 8500 rdg * 12**

FORM GR-470-36 (9476) (1968) (1964)		A STANDARD LAND CONTRACTOR	8200178	PAGE 2 OF 3
1 = GULF 5 = NORLEA	P AVE 2 AWIMMERA 6 = ABERYST	4 62	STANDARD CULTIVARS 3 = LINN 7 = MANHATTAN	4 = PELO 8 = PENNFINE	
3 Exisasper	1 = LEAVES ROLLED IN N: 2 = LEAVES SEMI-ROLLE LEAT = LEAVES FOLDED IN LEAT SUITH ANTHOCYAN PLANTS WITH ANTHOCYAN	D. (folded with YOUNG SHOO IN IN LOWER	rolled edges)	FLAG to As A . 2	CALTEMAD Reen Reen
·	Table 7) s see acres M. SPIKE LENGTH (tip to interest		A SINAD OF THE ANNA		
6 3 MM. s	HORTER THAN TERES SEE UN OF CW ONGER THAN A CES ONIGER MIRROR KON			ARD CULTIVARS FROM ABOVE	Ē,
1 1	MG. PER TEN SPIKES (tri	BPIKES THAN .	WID VIEW CONTENTS USE STAND	ARD CULTIVARS FROM ABOVI	E
	g_Heavier Per Ten Spike ets per spikelet	Marine digention on the contract of the contra	we remaind the control of the contro	erki, italiqidd ali qali (17 siptima rqia, Cyristia) 	Re 2008 (1)
PERCENTAGE C	OF PLANTS WITH:		CW AND TOLEN LINE	Ban Trans	o Office and
RACHIS: No. 55 W	1. FERTAL (I SWINGOTHER	A STATE OF THE STA	% ROL	JGH	и г
SPIKE COLOR: (Table 8)	0 7 0 % GREEN	(60. M) (60. Gas (60.	0 4 12 1 1 15 1 15 1 15 1 15 1 15 15 15 15 15	Brandan:	
LEMMA:	% AWNEDERS	7 73 	MM. A	G = BERGERERE WN: LENGTH = SECO	The Application of the entire the application of the entire the en
	E 1988 DE E 1982 DE E 1988 DE E 1988 DE 1988 D De 1988 DE 198	renta de regional de la composition de La composition de la	ing that is a still all the second of the se	·····································	sammen (majan mas) sisa menambang sampag
0 6 MM. G	LUME LENGTH (Table	9)		ENGTH NEARLY EQUAL TO O ENGTH MUCH LONGER THAN	
	LANTS WITH ANTHOCYANI	N IN COLEOP	Process (Sees persons		allen in a raine an include and a second and a
0 3 5 % P	OR: (Table 10 LANTS WITH WHITE ANTHE	Aberra mini		FTS WITH YELLOW ANTHERS	
***	LANT CHARACTERS: LANTS WITH PROSTRATE G LANTS WITH UPRIGHT GRO		T RLAN	NTS WITH FLUROFSCENT ROO	X 45. 15 . 15
14. SEED:	PER 1,000 SEED	Maria de la compansión de	A COSTS? COSTS OF OF COSTA AS SEE OS SEE AS	10 MM. T	OTAL WIDTH N SEEDS

COMMENTS:

		BLE, 4 = MODERATELY SUSCEPTIBLE	E, 6 = MODERATELY RESISTANT,
7 CROWN RUST (HIGHLY RESISTANT): (Table 1) Puccinia coronata) O Iminthosporium) O M	OLLAR SPOT (Sclerotinia)	7 BROWN PATCH (Rhizoctonia) 7 OTHER (Specify) winter brown blight
SNOW MOLD (T	yphula) C	ED THREAD (Corticium)	(Drechslera spp.)
SOD SE HINDER SE HINDER (Specify) 7 (Specify) 2 4 Ω Ω 17. GIVE RESEMBLA COMPARISON IS	IGHLY RESISTANT): Llbug (Table 11) er lette dt'el 9/24/82 ANCE VALUE IN LEFT COLUMN AND	LE, 4 = MODERATELY SUSCEPTIBLE VARIETY CODE NUMBER IN RIGHT AS, 3 = MORE ERECT, MORE RESIS	COLUMN FOR VARIETY WITH WHICH TANT, DENSER, MORE PERSISTENT,
RESEMBLANCE	CHARACTER	SIMILAR VARIETY	
	PLANT HABIT (erectness)	1 = GULF	
3	TILLERING (Table 4)	8 2 = WIMMERA 62	
3	WINTER HARDINESS	8 3 = LINN	
3	HIGH TEMP. STRESS RESISTANCE	8 4 = PELO	
3.	TURF PERSISTENCE	8 5 = NORLEA	
3	PLANT COLOR	7 6 = ABERYSTWYTH	S-23
	VERTICAL SEEDLING GROWTH RA	TE 7 = MANHATTAN	•
3	CROWN DENSITY	8 = PENNFINE	
3	MOWER SHREDDING RESISTANCE	7	
18. GIVE AREA OF	ADAPTATION AND INTENDED USE:	Wherever cool seasor	turfgrasses are grown.
19. GIVE AREA TES	T RESULTS PRESENTED FROM:		

EXHIBIT D

Additional Description of the Variety

Palmer is a leafy, turf-type perennial ryegrass of medium maturity. It is capable of producing a persistent, dense, attractive, medium low growing, fine textured turf with a bright, dark green color (Table 12). Palmer has shown good winter hardiness where severe ice sheets are not a problem. It has exhibited mowing qualities, heat tolerance, and summer performance characteristics which surpass most ryegrasses presently being sold. Palmer has excellent seedling vigor, very good wear tolerance, moderately good shade tolerance, and is adapted to a wide range of soil types.

FILED

JAN 1 4 1998

LONNA R. HOOKS SECRETARY OF STATE

CERTIFICATE OF MERGER OF LOFTS SEED, INC. INTO LOFTS MERGERCO, INC.

To: The Secretary of State State of New Jersey

Pursuant to the provisions of Section 14A:10-7 Corporations, General, of the New Jersey Statutes, the undersigned corporations hereby execute the following Certificate of Merger.

ARTICLE ONE

The names of the corporations proposing to merge and the states under the laws of which such corporations are organized, are as follows:

Name of Corporation

State of Incorporation

Lofts Seed, Inc. Lofts Mergereo, Inc.

New Jersey Nevada

ARTICLE TWO

The laws of the State of Nevada, the state under which such foreign corporation is organized, permit such merger and the applicable provisions of the laws of said jurisdiction have been, or upon compliance with filing and recording requirements will have been, complied with.

ARTICLE THREE

The name of the surviving corporation shall be Losts Mergerco, Inc. and it shall be governed by the laws of the State of Nevada.

The address of the surviving corporation's registered office is 2700 Sunset Rd., Las Vegas, Nevada 89120 and the name of the registered agent at such address is Johnny Thomas.

ARTICLE FOUR

The following plan of Merger was approved by the shareholders of the undersigned domestic corporation in the manner prescribed by the New Jersey Business Corporation Act, and was approved by the undersigned foreign corporation in the manner prescribed by the laws of the State under which it is organized:

0100 731429

STATE OF NEVADA

CERTIFICATE OF AMENDMENT OF

ARTICLES OF INCORPORATION OF

LUFTS MERGERCO, INC.

JAN 26 1998

HELLER SECRETARY IN STATE

Pursuant to the provisions of Nevada Revised Statutes, Title 7, Chapter 78, the undersigned officers do hereby certify:

FIRST: The name of the Corporation is Lofts Mergerco, Inc.

RESOLVED, that it is advisable in the judgment of the Board of Directors of the Corporation that the name of the Corporation be changed, and that, in order to accomplish the same, Article FIRST of the Articles of Incorporation be amended to read as follows:

"FIRST: The name of the corporation (hereitafter called the Corporation) is Lofts Seed Company, Inc."

FURTHER RESOLVED, that a special meeting of the sole stockholder having voting power be and it is hereby called and that notice be given in the manner prescribed by the By-laws of the Corporation and by Nevada Revised Statutes, Title 7, Chapter 78, unless the said stockholder shall waive the notice of meeting in writing or unless the said stockholder shall dispense with the holding of a meeting and shall take action upon the proposed amendment by a consent in writing signed by the sole stockholder; and

FURTHER RESOLVED, that in the event that the said stockholder shall adopt the aforesaid proposed amendment by a vote in favor thereof by at least a majority of the voting power or by a written consent in favor thereof signed by the sole stockholder without a meeting, the Corporation is hereby authorized to make by the hands of its President or a Vice President and by its Secretary or an Assistant Secretary a certificate setting forth the said amendment and to cause the same to be filed pursuant to the provisions of Nevada Revised Statutes, Title 7, Chapter 78.

THIRD: The total number of outstanding shares having voting power of the Corporation is 200, and the total number of votes entitled to be cast by the holder of all of said outstanding shares is 200.

FOURTII: The holder of all of the aforesaid total number of outstanding shares having voting power dispensed with the holding of a meeting of the sole stockholder and adopted the amendment herein certified by a consent in writing signed by the sole stockholder in accordance with the provisions of Nevada Revised Statutes, Title 7, Section 78.320.

January 22, 1998

LOFTS MERGERCO, INC.

Johnny R., homes

President

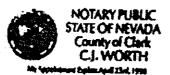
Kathleen L. Gillespi Assistant Secretary

State of Nevada)

) SS.:

County of Clark)

On January 22, 1998, personally appeared before me, a Notary Public, for the State and County aforesaid, Johnny R. Thomas, as President and Kathleen L. Gillespie, as Assistant Secretary of Lofts Mergerco. Inc., who acknowledged that they executed the above instrument.



Notary Public

IN THE OFFICE OF THE SECRETARY OF STATE OF NEVADA

NOV 2 9 1999

C-79410-89

DEAN HELLER, SECRETARY OF STATE

ARTICLES OF MERGER
OF
LOFTS SEED COMPANY, INC.
INTO
AGRIBIOTECH, INC.

Pursuant to the provisions of N.S.R. § 92A.180 and N.R.S. § 92A.200, AgriBioTech, Inc., a Nevada corporation, hereby submits these Articles of Merger for the purpose of merging Lofts Seed Company, Inc., a Nevada corporation and wholly-owned subsidiary of AgriBioTech, Inc., into AgriBioTech, Inc.

ARTICLE I. <u>Corporations Proposing to Merge and Surviving Corporation</u>

The name of the merging corporation is Lofts Seed Company, Inc., a Nevada corporation (hereinafter called the "Subsidiary Corporation"); and the name of the corporation which shall be the surviving corporation is AgriBioTech, Inc., a Nevada corporation (hereinafter called the "Parent Corporation").

ARTICLE II. Adoption of Plan of Merger

The Plan of Merger set forth in Article IV was duly adopted by the Parent Corporation and the Subsidiary Corporation.

ARTICLE III. Approval by Shareholders

Pursuant to N.R.S. § 92A.180, neither the approval of the Shareholders of the Parent Corporation, nor the approval of the Shareholders of the Subsidiary Corporation was required.

ARTICLE IV. Plan of Merger

The following Plan of Merger was duly approved on November 15, 1999, in the manner prescribed by law with respect to each of the corporations participating in the Merger:

Section 1. <u>Corporations Proposing to Merge and Surviving Corporation</u>. The name of the merging corporation is Lofts Seed Company, Inc., a Nevada corporation (hereinafter called the "Subsidiary Corporation"); and the name of the corporation which shall be the surviving corporation is AgriBioTech, Inc., a Nevada corporation (hereinafter called the "Parent Corporation").

- Section 2. <u>Effective Time of Merger</u>. The effective time of the merger shall be November 29, 1999 at 11:59 p.m. E.S.T. (the "Effective Time").
- Section 3. <u>Effects of Merger</u>. The Merger shall have the effects set forth in N.R.S. § 92A.250.
- Section 4. <u>Conversion of Shares</u>. Each share of capital stock of the Subsidiary Corporation issued and outstanding at the Effective Time shall, as of the Effective Time, by virtue of the Merger and without any action on the part of the holder thereof, be canceled and extinguished without consideration given therefor. The shares of capital stock of the Surviving Corporation shall continue to be outstanding without change.
- Section 5. <u>Articles of Incorporation and Bylaws</u>. The Articles of Incorporation and the Bylaws of the Surviving Corporation as in effect immediately prior to the Effective Time shall become the Articles of Incorporation and Bylaws of the Surviving Corporation following the Effective Time until changed in accordance with their terms and applicable law.

[Signature page to follow]

This the 15 day of November, 1999.

Addibioi Leti, iive., a ivevada corporadon
Ву:
Randy Ingram, Executive Vice President
By: Doch A Fish
Douglas A. Fisher, Secretary
LOETS SEED COMPANY DIG N. 1
LOFTS SEED COMPANY, INC., a Nevade corporation
By: May
Randy Ingram, President
By: Dou Sk A Fis L
Douglas A. Fisher, Secretary

U.S. DEPARTMENT OF AGRICULTURE Plant Variety Protection Office

RECORDATION FORM COVER SHEET PVP CERTIFICATES ONLY

To the Acting Commissioner of the Plant Variety Protection Office	. Please record the attached original documents or copy thereof.
1. Name of conveying party(ies):	2. Name and address of receiving party(ies):
LOFTS SEED COMPANY, INC.	Name: BANKAMERICA BUSINESS CREDIT, INC.
☐ Individual(s) ☐ Association	Street Address: 55 South Lake Avenue, Suite 900
 ☐ Individual(s) ☐ General Partnership ☐ Limited Partnership ☐ Corporation - State Nevada ☐ Other 	City: Pasadena State: California ZIP: 91101
Additional name(s) of conveying party(ies) attached? □ Yes ☑ No	☐ Individual(s) citizenship
3. Nature of conveyance:	☐ Association ☐ General Partnership
□ Assignment □ Merger	☐ Limited Partnership ☐ Corporation-State Delaware
■ Security Agreement □ Change of Name	□ Other
Other Execution Date: June 23,1998	If assignee is not domiciled in the United States, a domestic representative designation is attached: ☐ Yes ☐ No
	(Designation must be a separate document from Assignment) Additional name(s) & address(es) attached? □ Yes ☒ No
4. PVP certificate identifying information:	
A. PVP No.: 8200178	
B. Date certificate issued or application filed: 05/31/84	
C. Variety: "PALMER	" Ryegrass, perennial
	All egrass, perconna
Additional number	s attached? □ Yes ⊠ No
5. Name and address of party to whom correspondence	6. Total number of PVP applications or certificates involved: 1
concerning document should be mailed: Name: Tamsen Valoir Jenkens & Gilchrist	7. Total fee (37 CFR 3.41): \$
Jenkens & Gilchrist Internal Address:	☑ Enclosed
	☐ Authorized to be charged to deposit account.
Street Address: 1445 Ross Avenue, Suite 3200	8. Deposit Account number:
City: Dallas State: Texas Zip: 75202-2799	(Attach duplicate copy of this page if paying by deposit account)
DO NOT USE	THIS SPACE
9. Statement and signature.	
To the best of my knowledge and belief, the foregoing information	is true and correct and any attached copy is a true copy of the
original document.	and the set that
Tamsen Valoir MSM Valou	June 30, 1998
Name of Person Signing Signature	Date Total number of new constitution accordance to the second se
	Total number of pages comprising cover sheet: 1

PVP CERTIFICATE ASSIGNMENT

WHEREAS, LOFTS SEED COMPANY, INC., a Nevada corporation ("Assignor"), having a business address of 191 Budd Blvd., Winston Salem, NC 27114, is the owner of the pending or issued Plant Protection Act (PVP) certificate(s) listed below; and

WHEREAS, BankAmerica Business Credit, Inc., a Delaware corporation, having an office at 55 South Lake Avenue, Suite 900, Pasedena, California 91101 as "Agent" for the "Lenders" as defined and described in the Loan and Security Agreement dated as of June 23, 1998 ("Assignee"), is desirous of acquiring a SECURITY INTEREST in such PVP certificate(s);

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, said Assignor does hereby sell, assign, transfer and set over unto the said Assignee a SECURITY INTEREST in, to, and under the PVP certificate(s):

No. 9600256 Pending No. 9200256 Issued No. 9500090 Pending No. 9600228 Pending No. 9600277 Pending No. 8100157 Issued No. 8200187 Issued No. 8800230 Issued No. 9500238 Pending No. 8900288 Issued No. 9300200 Pending No. 9500129 Pending No. 8000153 Issued No. 8200175 Issued No. 8700195 Issued No. 8800235 Issued No. 9000240 Issued No. 9200209 Pending No. 9200210 Pending No. 9200211 Pending No. 9200212 Pending No. 8200177 Issued No. 8200178 Issued No. 8400148 Issued No. 8200168 Issued

No. 9100254 Issued No. 9500128 Issued NGD V

LOFTS SEED COMPANY, INC.

By: Aug Adapt ...

Printed Name: Henry A. Ingalls

Title: Vice President

STATE OF TEXAS

§.

COUNTY OF DALLAS

§.

Henry A. Ingalls, Vice President, of LOFTS SEED COMPANY, INC., personally appeared before me, and being first duly sworn declared that he signed the security agreement in the capacity designated, and further states that he has read the above security agreement, and the statements therein contained are true.

SUBSCRIBED AND SWORN TO before me this 23 day of June, 1998.

Notary Public in and for the State of Texas

My Commission Expires:

Printed Name



INITED STATES DEPARTMENT OF AGRICULTURE PLANT VARIETY PROTECTION OFFICE

CERTIFICATE OF MAILING

BOX ASSIGNMENT Acting Commissioner of the Plant Variety Protection Office Plant Variety Protection Office 10301 Baltimore Blvd. Beltsville, MD 20705-2351.

Dear Sir:

I hereby certify that this correspondence,

74 Cover sheets 74 Assignments Check in the amount of \$1,850.00 (74 x \$25.00) 74 Return postcards

for the attached (in Exhibit A) PVP certificate numbers are being deposited with the United States Postal Service as Express Mail, mailing label number EE507465254US, postage prepaid, in an envelope addressed to:

BOX ASSIGNMENT Acting Commissioner of the Plant Variety Protection Office Plant Variety Protection Office 10301 Baltimore Blvd. Beltsville, MD 20705-2351.

Date: July 1, 1998

IPHOU:15412.1 20992-00039

Jenkens & Gilchrist

1100 LOUISIANA STREET, SUITE 1800 HOUSTON, TEXAS 77002

TEXAS COMMERCE BANK, N.A. 301 W. BEAUREGARD San Angelo, Texas 76903

903870

1998

\$1,850.00*

One Thousand Fifty Dollars and 00 Cents

TO THE ORDER

U. S. Department Of Agriculture Plant Variety Protection Office

TWO SIGNATURES REQUIRED OVER \$2500 VOID AFTER 180 DAYS NOT VALID FOR OVER \$5000

#0903870# #111300880# #06300009654#

RECORDATION FORM COVER SHEET PVP CERTIFICATES ONLY

To the Acting Commissioner of the Plant Variety Protection Office	. Please record the attached original documents or copy thereof.
1. Name of conveying party(ies):	2. Name and address of receiving party(ies):
LOFTS SEED COMPANY, INC.	Name: BANKAMERICA BUSINESS CREDIT, INC.
 □ Individual(s) □ Association □ General Partnership □ Corporation - State Nevada □ Other	Street Address: 55 South Lake Avenue, Suite 900 City: Pasadena ZIP: 91101 State: California
Additional name(s) of conveying party(ies) attached? □ Yes ⋈ No	☐ Individual(s) citizenship
3. Nature of conveyance: □ Assignment □ Merger □ Security Agreement □ Change of Name □ Other □ Execution Date: June 23,1998	☐ Association ☐ General Partnership ☐ Limited Partnership ☐ Corporation-State Delaware ☐ Other ☐ If assignee is not domiciled in the United States, a domestic representative designation is attached: ☐ Yes ☐ No (Designation must be a separate document from Assignment) Additional name(s) & address(es) attached? ☐ Yes ☒ No
4. PVP certificate identifying information:	
A. PVP No.: 8400148	
B. Date certificate issued or application filed: 11/29/85	
	' Ryegrass, perennial
Additional number	rs attached? □ Yes ⊠ No
5. Name and address of party to whom correspondence concerning document should be mailed: Name: Tamsen Valoir Jenkens & Gilchrist Internal Address:	 6. Total number of PVP applications or certificates involved: 1 7. Total fee (37 CFR 3.41): \$ 25.00 ☑ Enclosed
	☐ Authorized to be charged to deposit account.
Street Address: 1445 Ross Avenue, Suite 3200	8. Deposit Account number:
City: <u>Dallas</u> State: <u>Texas</u> Zip: <u>75202-2799</u>	(Attach duplicate copy of this page if paying by deposit account)
DO NOT USE	
	THIS SPACE
To the best of my knowledge and belief, the foregoing information original document. Tamsen Valoir	is true and correct and any attached copy is a true copy of the June 30, 1998
To the best of my knowledge and belief, the foregoing information original document.	is true and correct and any attached copy is a true copy of the

PVP CERTIFICATE ASSIGNMENT

WHEREAS, LOFTS SEED COMPANY, INC., a Nevada corporation ("Assignor"), having a business address of 191 Budd Blvd., Winston Salem, NC 27114, is the owner of the pending or issued Plant Protection Act (PVP) certificate(s) listed below; and

WHEREAS, BankAmerica Business Credit, Inc., a Delaware corporation, having an office at 55 South Lake Avenue, Suite 900, Pasedena, California 91101 as "Agent" for the "Lenders" as defined and described in the Loan and Security Agreement dated as of June 23, 1998 ("Assignee"), is desirous of acquiring a SECURITY INTEREST in such PVP certificate(s);

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, said Assignor does hereby sell, assign, transfer and set over unto the said Assignee a SECURITY INTEREST in. to, and under the PVP certificate(s):

No. 9600256 Pending

No. 9200256 Issued

No. 9500090 Pending

No. 9600228 Pending

No. 9600277 Pending

No. 8100157 Issued

No. 8200187 Issued

No. 8800230 Issued

No. 9500238 Pending

No. 8900288 Issued

No. 9300200 Pending

No. 9500129 Pending

No. 8000153 Issued

No. 8200175 Issued

No. 8700195 Issued

No. 8800235 Issued

No. 9000240 Issued

No. 9200209 Pending

No. 9200210 Pending

No. 9200211 Pending

No. 9200212 Pending

No. 8200177 Issued

No. 8200178 Issued

No. 8400148 Issued No. 8200168 Issued

No. 9100254 Issued

No. 9500128 Issued

LOFTS SEED COMPANY, INC.

By: _____ New A dyell

Printed Name: Henry A. Ingalls

Title: Vice President

STATE OF TEXAS

§

COUNTY OF DALLAS

8

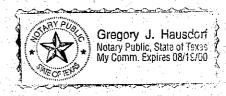
Henry A. Ingalls, Vice President, of LOFTS SEED COMPANY, INC., personally appeared before me, and being first duly sworn declared that he signed the security agreement in the capacity designated, and further states that he has read the above security agreement, and the statements therein contained are true.

SUBSCRIBED AND SWORN TO before me this 23 day of June, 1998.

Notary Public in and for the State of Texas

My Commission Expires:

Printed Name



ngu :

INITED STATES DEPARTMENT OF AGRICULTURE PLANT VARIETY PROTECTION OFFICE

CERTIFICATE OF MAILING

BOX ASSIGNMENT
Acting Commissioner of the Plant Variety Protection Office
Plant Variety Protection Office
10301 Baltimore Blvd.
Beltsville, MD 20705-2351.

Dear Sir:

I hereby certify that this correspondence,

74 Cover sheets
74 Assignments
Check in the amount of \$1,850.00 (74 x \$25.00)
74 Return postcards

for the attached (in Exhibit A) PVP certificate numbers are being deposited with the United States Postal Service as Express Mail, mailing label number EE507465254US, postage prepaid, in an envelope addressed to:

BOX ASSIGNMENT
Acting Commissioner of the Plant Variety Protection Office
Plant Variety Protection Office
10301 Baltimore Blvd.
Beltsville, MD 20705-2351.

Tamsen Valoir

Date: July 1, 1998

IPHOU:15412.1 20992-00039

Jenkens & Gilchrist

1100 LOUISIANA STREET, SUITE 1800 HOUSTON, TEXAS 77002 Texas Commerce Bank, N.A. 301 W. Beauregard San Angelo, Texas 76903 903870

July 1, 1998

*****\$1,850.00*****

One Thousand Fifty Dollars and 00 Cents

TO THE STOROUT TO THE

U. S. Department Of Agriculture Plant Variety Protection Office

TWO SIGNATURES REQUIRED OVER \$2500
VOID AFTER 180 DAYS

NOT VALID FOR OVER \$5000

""0903870" ::111300880: "06300009654"

SECURITY AGREEMENT AGRICULTURAL INTELLECTUAL PROPERTY COLLATERAL (Plant Variety Protection Act Certificates)

STATE OF)	
~~~	•	)	SS.:
COUNTY OF		)	

WHEREAS, LOFTS SEED INC., a New Jersey corporation (the "Company"), is the listed owner of certain plant variety protection applications and certificates issued by the United States Department of Agriculture Plant Variety Protection Office (the "PVPO")all of which are as of this date as set forth on Schedule A (the "PVPs"), and

WHEREAS, the Company is the sole owner of the entire right, title and interest in and to the PVPs except as otherwise indicated in Schedule A and

WHEREAS, the Company has entered into a Loan and Security Agreement, dated on or about the date hereof (the "Loan Agreement"), between the Company as borrower and Branch Banking and Trust Company (the "Lender"), pursuant to which the Lender has, on the date hereof, made certain loans and other financial accommodations to the Company and may, from time to time hereafter, make additional loans to the Company, and

WHEREAS, pursuant to the Loan Agreement, the Company has agreed to grant to the Lender a continuing security interest in, and a continuing lien on, all of the Company's right, title and interest in and to the following (collectively the "Agricultural Intellectual Property Collateral"),

### (a) the PVPs, and

(b) all proceeds thereof to which the Company is entitled, including, but not limited to, any claims and demands arising out of any infringement of the PVPs, including the right to settle disputes concerning such claims and demands,

to secure the payment and performance of the Obligations and Other Obligations (as defined in the Loan Agreement).

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, the Company does hereby grant to the Lender a continuing security interest in, and a continuing lien on, the Company's rights in the Agricultural Intellectual Property Collateral as security for the payment and performance of the Secured Obligations.

The Company hereby appoints Lender with full power of substitution, to file and record this Security Agreement in the PVPO, to transact all business in the PVPO, to receive any confirmatory documents relating thereto, and to take any and all action before the PVPO to give effect to this Agreement and to the Loan Agreement referred to herein.

The Company hereby further acknowledges and affirms that the rights and remedies of the Lender with respect to the security interest in and lien upon the Company's rights in the Agricultural Intellectual Property Collateral made and granted hereby are more fully set forth in the Loan Agreement, the terms and provisions of which are hereby incorporated herein by reference as if fully set forth herein.

Further, by this Security Agreement, the Company agrees to assign to Lender, upon the occurrence of an Event of Default by the Company (as defined in the Loan Agreement), all of the Company's rights in and to the Agricultural Intellectual Property Collateral; provided that this assignment is expressly contingent upon the occurrence of an Event of Default.

This Security Agreement will become effective June 28, 1996 at the Effective Time of the Merger of Budd Acquisition, Inc., a New Jersey corporation, with and into Lofts Seed Inc., a New Jersey corporation, as provided in a Certificate of Merger to be filed with the New Jersey Secretary of State's office.

IN WITNESS WHEREOF, the Company has caused this Security Agreement to be duly executed by its authorized officer of agent as of June 28, 1996.

[Corporate Seal]

Title: CEO

1996, R. Chard P. Du Id personally came before
, a Notary Public for said County and State, Richard P. Bold who being by me duly sworn, says that he is of Lofts Seed Inc., and that said writing was signed and sealed by him on behalf of said corporation by its authority duly given. The said rehand lead acknowledged the said writing to be the act and deed of the corporation.

WITNESS my hand and notarial seal.

Notary Public

My Commission Expires: 2-9-97

COUNTY OF FORSYTH FRANCES D. SWING

R#0185253.01

# SCHEDULE A AGRICULTURAL INTELLECTUAL PROPERTY COLLATERAL (CERTIFICATES OF PLANT VARIETY PROTECTION)

### A. KENTUCKY BLUEGRASS

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Princeton P105	9600228	4-22-96	Pending	
Eagleton	9600277	6-11-96	Pending	
Preakness	9500090	2-13-95	Pending	
Mystic	8100157	8-26-81	5-27-82	5-27-00
Georgetown	8200187	1982	7-24-83	7-21-01
Lofts 1757	8800230	1988	9-30-92	9-30-10
Laser (Rough Bluegrass)	8900288	1989	10-31-91	10-31-09
Co-owned PVPs				
243 (Nassau)*	8400005	1983	12-21-84	12-21-02
Suffolk*	8800072	1988	5-31-88	5-31-06
Ram I**	7800069	1978	3-15-79	3-15-96

Jacklin Seed Company listed as co-owner

### B. PERENNIAL RYEGRASS

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Palmer	8200178	9-8-82	5-31-84	5-31-02
Palmer II	9200209	6-16-92	Pending	
Prelude	8200177	9-8-82	5-31-84	5-31-02
Prelude II	9200210	6-16-92	Pending	
Yorktown III	9200212	6-16-92	Pending	

^{**} Mrs. Barbara B. Curtis listed as co-owner

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Repell	8400148	8-30-84	11-29-85	11-29-03
Yorktown II	7800001	10-6-77	5-1-80	5-1-97
Repell II	9200211	6-16-92	Pending	

### C. TALL FESCUE

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Rebel	8000153	8-21-80	5-14-81	5-14-99
Rebel III	9500129	4-10-95	Pending	
Rebel Jr.	9000240	1990	11-30-92	11-30-10
Rebel 3D	9300200	4-21-93	Pending	
Tribute	8800235	9-15-88	2-28-90	2-28-08
Clemfine	8200175	9-7-82	2-28-83	2-28-01
Rebel II	8700195	1987	1-15-88	1-15-06

### D. FINE FESCUE

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Reliant	8200168	1982	2-28-83	2-28-01
Jamestown II	9100254	1991	8-31-95	8-31-15

### E. BENTGRASS

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
L93	9600256	5-8-96	Pending	
Southshore	9200256	1992	10-31-94	10-31-12

### F. OTHER

VARIETY NAME	NUMBER	DATE APPLIED	DATE ISSUED	EXPIRES
Salty (weeping alkaligrass)	9500128	4-10-95	Pending	
Laser II (rough bluegrass)	9500238	6-15-95	Pending	